

Integrating Business and Financial Management Functions

William R. Fast

A program executive officer once said, “You can’t be effective in the world of acquisition management unless you have an effective business financial manager.” He’s right! People, not processes, determine tomorrow’s innovative acquisition solutions, and the BFM is a key member of the acquisition management team.

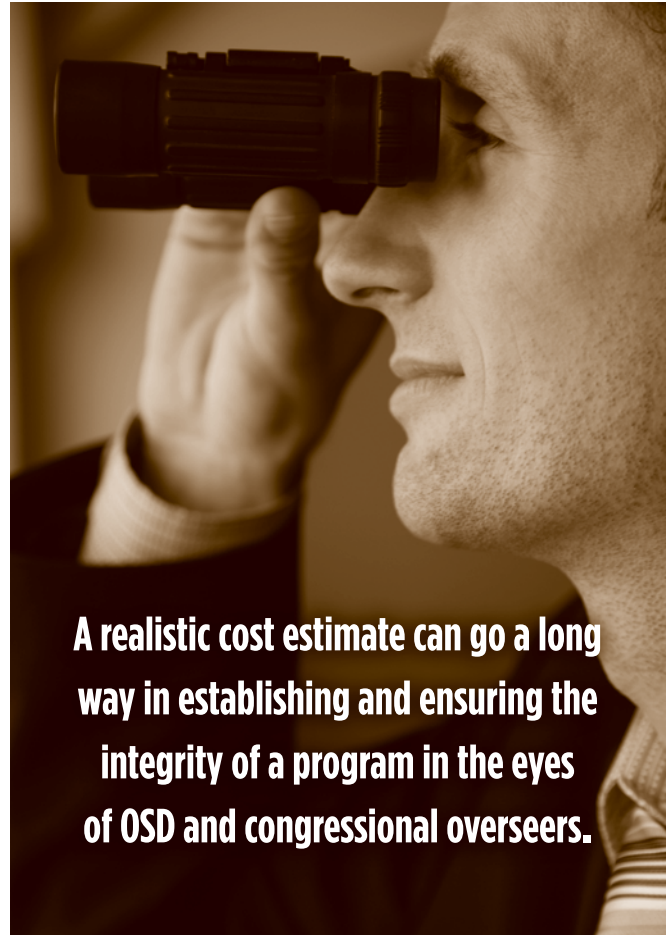
So just what does the BFM contribute to an acquisition program? What outcomes does the program manager expect the BFM to deliver? While there are many services and products that the BFM can provide, the ones that have the potential to make or break a program are realistic cost estimates, appropriated funds to support contract awards, and proper and timely obligation and expenditure of those funds.

The BFM’s contributions support each of the program’s milestone decisions and enable all phases of its life cycle. Outcomes also integrate horizontally—across the entire life cycle of the program—to enable design, realization, and support of the product. In addition, the outcomes integrate vertically to garner scarce funding resources through the Service and Office of the Secretary of Defense levels; to support planning, programming, budgeting, and execution; and ultimately, to obtain budget authority from Congress. What follows is a close look at the three key outcomes.

Realistic Cost Estimates

Cost estimates that are realistic from the outset of the program stand a better chance of remaining valid and avoiding growth over time. A realistic cost estimate can also go a long way in establishing and ensuring the integrity of a program in the eyes of OSD and congressional overseers. A best practice is to develop a robust cost estimate that covers potential cost growth.

Over the past year, 11 of 95 major defense acquisition programs experienced unit cost growth in excess of 15 percent of the current baseline or 30 percent of the original baseline, breaching Nunn-McCurdy Amendment unit cost growth thresholds. MDAPs are programs identified by OSD that require eventual research, development, test, and evaluation (RDT&E) expenditures of more than \$365



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million, or \$2.19 billion for procurement in fiscal year 2000 constant dollars. Over the past year, an additional 10 MDAPs breached acquisition program baseline cost thresholds set by the milestone decision authority. Poor cost estimating contributes to cost growth.

A realistic program office estimate must include all life cycle cost elements: research and development, testing, production, operations, support, and disposal costs. The BFM should use the program’s work-breakdown structure as a checklist and involve functional experts—such as logisticians, systems engineers, quality and manufacturing specialists, the user, etc.—to make certain all cost elements are included. He or she should also check capability

***Fast** facilitates financial and program management training at the Defense Acquisition University. From 2001-2004, he managed programming and budgeting for the assistant secretary of the Army for acquisition, logistics, and technology.*

documents for requirements that identify particular cost elements. For example, the Joint Requirements Oversight Council has mandated that capability development documents contain key performance parameters for force protection, survivability, sustainment, and net-ready capability. Key performance parameters for energy efficiency (the fully burdened cost of fuel) and systems training may also be included. The Joint Requirements Oversight Council has also mandated key system attributes for material reliability and ownership costs. In addition, costs should be included to manage the program and to sustain any legacy system(s) until they are replaced by the new system. Cost estimates for those elements can be developed using expert opinion, analogies, parametric analyses, engineering estimates, or actual costs. Cost estimating is subjective, and no one particular method is always appropriate. Regardless of the method used, it's important to ensure the integrity of the estimating process and to crosscheck the estimate with results from other methods. Finally, as design solutions mature, the BFM should direct that earlier analogy and parametric estimates be replaced with engineering estimates and actual costs. In so doing, cost risk can be removed from the estimate over the life cycle of the program.

The BFM must understand the *confidence* of the cost element estimates. A cost element estimated at the 50 percent confidence level has a 50 percent probability of coming in at that amount and a corresponding 50 percent probability of a cost overrun. However, if that same cost element is estimated at the 80 percent confidence level, it has an 80 percent probability of coming in at that amount and may not experience as much cost growth over time. High-risk cost elements, like software development, might warrant costing up to the 80 percent confidence level. Making that decision, however, may make the overall program more costly.

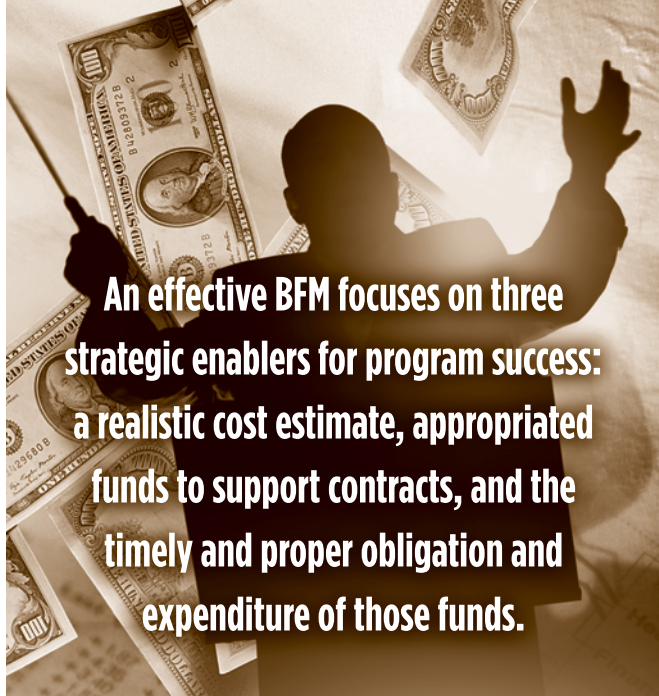
The BFM for an MDAP has to update the program office estimate for each milestone decision review. This equates to two to three updates during the program's life, depending upon where the program entered the acquisition process. In one of his or her first vertical integration efforts, the BFM presents the program office estimate and cost analysis requirements description to OSD's Cost Analysis Improvement Group and/or the appropriate component cost analysis agency. The Cost Analysis Improvement Group and/or the appropriate component cost analysis agency performs the statutorily required independent review of the high-risk elements of the program office estimate and validates the methods used to make the estimate. Since the estimate is the basis for development of the program's budget request, OSD can also review cost estimates during the planning, programming, budgeting, and execution program and budget reviews to determine if the program is fully funded by the Service and if it is affordable, given top-line budget amounts.

To be successful in this process, the BFM must ascertain that the Cost Analysis Improvement Group and/or the appropriate component cost analysis agency has the latest cost analysis requirements description, and the BFM must anticipate when updates are due. DoD Instruction 5000.2 requires a draft of the cost analysis requirements description 180 days in advance and the final version 45 days prior to a planned overarching integrated process team meeting or the DoD component milestone review. As with cost elements, functional experts need to assist in the development of the cost analysis requirements description to ensure the system under development is fully described and risks are clearly identified. Finally, to avoid problems during the budget reviews, the cost estimate and the budget request should match. If not, the program is either not fully funded to the cost estimate or the program is funded in excess of the cost estimate. Either condition will cause the comptroller to question the program's budget request.

Appropriated Funds to Support Contracts

Faced with funding constraints, the Services fund only necessary and affordable programs in the Future Years Defense Program, which is OSD's program and budget database and managed by the director, program analysis and evaluation. According to DoD Instruction 5000.2, in order to transition into the systems development and demonstration phase (in other words, to pass Milestone B), a program must be fully funded in the FYDP to carry out the acquisition strategy. In addition, a fully funded program has a measure of budget stability that should allow for predictable acquisition outcomes in terms of cost and schedule.

Over the past year, half of the MDAPs (47 of 94) have been found, either by the PM or OSD, to have inadequate programmed or budgeted funds. In 34 percent of these programs, headquarters or Congress cut program budgets. However, in 60 percent of the programs, budget requirements outgrew the levels of programmed/budgeted funds already in the FYDP. Reductions by Congress or headquarters were often the result of poor performance during development. Immature technology, test failures, and contract cost overruns were primary reasons for this poor performance. Budgets were also cut when advocacy for the program waned among the program's key stakeholders. Growth in budget requirements primarily came from instability in operational requirements and poor cost estimating. Programs with mismatched needs and resources usually experience cost growth, as is often the case when, for example, initial requirements are unclear and new requirements are added to the program over time. Alternatively, cost can grow when planned technology is immature and requires additional resources to make it useable in the system. Often, the BFM will be the first to detect mismatches between requirements, unproven technologies, and the program office estimate. The



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BFM must work closely with the PM to identify time- and cost-definite increments of capability that are based on mature technology.

A vigilant BFM ensures that programmed and budgeted funds reflect the funding required by the program office estimate. To do this, the BFM has to work the planning, programming, budgeting, and execution process vertically, from budget formulation through the Service program objective memorandum processes and, ultimately, to concurrent program and budget reviews at the OSD level. Since OSD develops a new program objective memorandum every other year, over a 10- to 15-year program life cycle, the BFM can expect to engage in this vertical integration effort about five to seven times. Moreover, to get through the OSD reviews and the congressional enactment process without cuts, budget requests must be defensible.

A sound, defensible budget is properly priced and phased, and it complies with budget policies. A program is properly priced when it is budgeted to the most likely cost and when each element of cost has a rational basis of estimate. Programs must be priced based on the most recent contracts, include all recurring and non-recurring costs, and include reductions for learning and economies of scale. A program is properly phased when program budgets and their associated funding appropriations are aligned with the major phases of the program. For example, DoD typically uses RDT&E funds during systems development and demonstration. DoD budgets for procurement funds to be used on production contracts that are to be awarded after the production decision at Milestone C. In addition, the level of RDT&E or procurement funding requested should reflect a logical ramp-up and drawdown of funds over time, mirroring the work activity levels of the contracts. Finally, when requesting a budget, BFM

must be cognizant of the budget policies that apply to the various appropriation titles. They must ensure they have applied the annual, incremental, and full-funding policies correctly. The OSD comptroller will check for compliance during the budget review phase of the planning, programming, budgeting, and execution process.

Once submitted to OSD, the next opportunity to influence the program and budget is during the concurrent program and budget reviews. The director for program analysis and evaluation leads a program review of the entire program objective memorandum, and the OSD comptroller leads a review of the budget estimate submission (the first two years of the program objective memorandum). Faced with limited resources and more than enough programs to fund, OSD may ask the PM to help frame program review issues or answer advance questions for a budget review hearing. If requested programmed funds and/or budget are not forthcoming, the PM needs to explain what capabilities will not be provided and what actions will not be accomplished as a result. For example, the PM might explain that the lethality of the system will be reduced, that operational testing cannot begin, that production will be below the minimum sustaining rate, or that system fielding will be delayed for one year. In any case, the PM should defend the program, not the budget. Operational and business impacts to the program stand a better chance of preserving budget when compared to complaints about having to deal with a shortage of funds. In the end, OSD adjusts the FYDP based upon program decisions as documented in program decision memorandums and budget decisions as documented in program budget decisions.

After adjustment of the FYDP, the budget estimate submission becomes the Department of Defense budget request and is included in the president's annual budget request, forwarded to Congress on the first Monday in February of each year. The budget enactment process ultimately results in authorized and appropriated funds. There will be opportunities for senior DoD and Service officials to influence the process as they testify about the program before the House and Senate defense committees. Even before these official testimonies, the PM and BFM should meet with professional congressional staff members to explain the program and the associated budget request. These staffers wield a great deal of power and want to be kept informed on program cost, schedule, and performance issues. The PM and BFM should not be afraid to give them bad news on the program, along with a plan to fix the problems. As House and Senate versions of the authorization and appropriation bills work their way through the committees, there may be opportunities to appeal marks and language against the program. Previous efforts to proactively engage and keep the staffers informed can help the program win a favorable decision on an appeal.

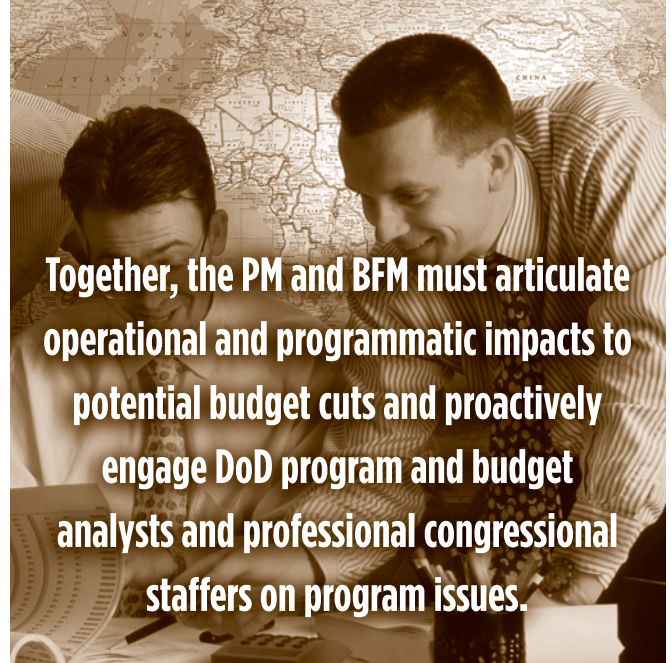
Proper and Timely Budget Execution

The annual National Defense Authorization Act gives a program its right to exist. However, only after the president signs the Defense Appropriations Act does the program have budget authority. After budget authority is apportioned, allocated, sub-allocated, and finally allotted to the program level, it becomes available for use on contracts. The program office must spend this budget authority (also called “funds”) in the way Congress intended and without violating any fiscal laws. In addition, funds must be obligated and expended at rates equal to or better than established Service and OSD goals. If not, the program risks losing these funds to other programs.

Each appropriation title has a defined period of time when it is available for new obligations (for instance, RDT&E has two years, procurement has three years, and operation and maintenance has one year). After the period of availability, the funds move into expired status for five years. While expired, the funds are no longer available for new obligations, but they can be used to liquidate previously made obligations. However, after the five years, expired funds cancel, lose their accounting identity, and are unavailable for any purpose, even to liquidate obligations. The BFM must use currently available funds to pay contractor invoices that cite canceled funds. Therefore, it is essential that contractors submit invoices in a timely manner and before funds cancel.

At the beginning of the fiscal year, the BFM must file with the Service comptroller obligation and expenditure plans for all funds that have not yet canceled. These plans are written forecasts showing, on a month-by-month basis, when funds are expected to be on contract (i.e., obligation of funds) and when check or electronic funds transfer is to be sent to the contractors (i.e., expenditure of funds). Over a 10- to 15-year program, assuming the use of just two appropriation types, the BFM will prepare and execute about 50 to 70 of these spending plans. The comptroller uses these plans to assess budget execution over the course of the fiscal year. The OSD goal is to expend 55 percent of RDT&E funds and obligate 80 percent of procurement funds in the first year of availability. Service goals are usually higher. If actual performance lags behind the plan or fails to achieve the goals, particularly at the time of the mid-year review, the comptroller may take some or all of the funds for other uses. To avoid forward-financing the program, the comptroller might also remove funds from next year’s budget request for poor execution of the current year funding program.

If the program has cost or incentive contracts valued at more than \$20 million, earned value management data should be included as a contract deliverable. EVM is a performance-based acquisition management system that objectively measures the achievement of cost, schedule, and performance goals. Using EVM data, the BFM can identify



cost and schedule variances that indicate the contract is currently over or under its budgeted cost and ahead of or behind its planned accomplishments. Projected to the end of the contract, these variances could predict an overrun/underrun in total contract cost or scheduled completion. To properly price the contract and ensure there is sufficient budget to cover any potential cost overrun, the prudent BFM reconciles the contract estimated price at completion with the budget of record in the FYDP. The estimated price at completion is determined by adding the adjusted fee or profit to the cost estimated for when the contract is completed. EVM data also feed back into the cost estimate when actual contractor labor, material, overhead, and subcontract costs replace and improve on earlier analogy, parametric, and engineering estimates used in the program cost estimate.

Finally, during the entire process of executing the budget, the BFM must make sure the program complies with all fiscal laws. U.S. Code, Title 31, Section 1301, commonly referred to as the Misappropriation Act, requires funds be used only for programs and purposes for which the appropriation was made. A program violates the Misappropriation Act if it obligates or expends funds for purposes other than those intended by Congress. U.S. Code, Title 31, Sections 1341 and 1517, referred to as the Antideficiency Act, prohibits obligations in advance of the appropriation or in excess of the amount available. Violations of the Antideficiency Act occur when the program obligates funds in advance of the enactment of the appropriation or in excess of the appropriated, apportioned, allotted, or sub-allotted amounts. In addition, U.S. Code Title 31, Section 1502(a), the Bona Fide Need Rule, requires that funds be used only for needs that arise in the period that the appropriation is available for new obligations. Obligating current funds for supplies or services not needed for several years in the future (e.g. stockpiling supplies) is a violation of the Bona Fide Need Rule.

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Successful BFMs

An effective BFM focuses on three strategic enablers for program success: a realistic cost estimate, appropriated funds to support contracts, and the timely and proper obligation and expenditure of those funds. The PM depends on the BFM to integrate these three outcomes throughout the life cycle of the program. To do this, the BFM must think and act vertically, through the planning, programming, budgeting, and execution and congressional enactment processes, as well as horizontally, from concept, through development and production, to fielding and support.

The BFM works in conjunction with the PM and the program's key stakeholders to develop a realistic program office cost estimate that can withstand the cost, schedule, and performance risks realized during development of the system. A best practice is to develop a robust estimate by setting the cost of high-risk cost elements at a higher level of confidence, while being careful not to make the overall program unaffordable to the Service or DoD. Cost risk can be removed from the estimate over time if earlier analogy and parametric estimates are replaced with engineering estimates or actual costs. The BFM translates the cost estimate into stable budgets that can support the contracts needed to develop and produce the system. Stability comes from ensuring the program is fully funded to its estimate in the Service program and budget request at program initiation. Moreover, the BFM must be diligent in ensuring the program remains fully funded in each subsequent programming and budgeting cycle. Stability also comes from cohesive defense of the program and budget request.

Together, the PM and BFM must articulate operational and programmatic impacts to potential budget cuts and proactively engage DoD program and budget analysts and professional congressional staffers on program issues. Finally, when funds are appropriated, the BFM works with the entire program management team to obligate and expend the funds according to established spending plans and without violating any fiscal laws. Obligation and expenditure plans must reflect reality in terms of projected contract award dates and invoicing by contractors. Realistic spending plans can be developed only through the combined efforts of the program team with input from the contractors. The effectiveness of these repeated vertical and horizontal integration efforts across the entire life cycle of the program determines the program's cost and schedule outcomes. More important, these efforts directly contribute to getting the weapon system to the warfighter when it is needed.

The author welcomes comments and questions and can be contacted at william.fast@dau.mil.